1996

Curricular Report No. 1995-96-7 from the Graduate Council to the Faculty Senate

University of Rhode Island Faculty Senate

Serial Number #95-96--23

UNIVERSITY OF RHODE ISLAND
Kingston, Rhode Island
FACULTY SENATE
BILL
Adopted by the Faculty Senate

TO: President Robert L. Carothers

FROM: Chairperson of the Faculty Senate

1. The attached BILL, titled Curricular Report No. 1995-96-7 from the Graduate Council to the Faculty Senate, is forwarded for your consideration.

2. The original and two copies for your use are included.

3. This BILL was adopted by vote of the Faculty Senate on April 11, 1996.

4. After considering this bill, will you please indicate your approval or disapproval. Return the original or forward it to the Board of Governors, completing the appropriate endorsement below.

5. In accordance with Section 10, paragraph 4 of the Senate's By-Laws, this bill will become effective May 2, 1996, three weeks after Senate approval, unless: (1) specific dates for implementation are written into the bill; (2) you return it disapproved; (3) you forward it to the Board of Governors for their approval; or (4) the University Faculty petitions for a referendum. If the bill is forwarded to the Board of Governors, it will not become effective until approved by the Board.

April 12, 1996
(date)

James G. Kowalski
James G. Kowalski
Chairperson of the Faculty Senate

ENDORSEMENT

TO: Chairperson of the Faculty Senate

FROM: President of the University

Returned.

a. Approved ✓.

b. Approved subject to final approval by Board of Governors _____.

c. Disapproved _____.

4.17.96
(date)

R L Carothers
President

Form revised 9/91

UNIVERSITY OF RHODE ISLAND
The Graduate School

CURRICULAR REPORT FROM THE GRADUATE COUNCIL TO THE FACULTY SENATE
REPORT NO. 1995-96-7

At its Meeting No. 329 held on March 15, 1996, the Graduate Council considered and approved the following curricular matters which are now submitted to the Faculty Senate for confirmation as indicated.

I. Matters Requiring Confirmation by the Faculty Senate.

A. College of Pharmacy

1. Departments of Medicinal Chemistry, Pharmacognosy and Pharmacology & Toxicology (to become merged into a new Department of Biomedical Sciences contingent upon approval by the Board of Governors)

a. Medicinal Chemistry Changes in M.S. and Ph.D. (Pharmaceutical Sciences) admission and program requirements to read:

Medicinal Chemistry

Master's requirements: ACS Placement Exam (organic) to determine specific program requirements; one seminar presentation per year; thesis defense; demonstrated proficiency in physical chemistry or successful completion of BCH 435 with a grade of C or better; 30 credits including 6-9 research credits (BMS 599), BMS 521 or 522, BMS 525, BMS 530 or BMS 535, BCH 581; three or four of the following courses in consultation with major professor -CHM 427, CHM 521, CHM 522 BMS 443, BMS 444, BMS 691.

Ph.D. (Pharmaceutical Sciences) requirements same as M.S. plus the following:
Both BMS 535 and BMS 530 required; one additional seminar credit; two additional graduate level courses from BMS or BCH 582; research credits as required; seventy-two credits total; comprehensive examination, written and oral.

b. Pharmacognosy Changes in M.S. and Ph.D. (Pharmaceutical Sciences) admission and program requirements to read:

Pharmacognosy

Master's requirements: ACS Placement Examination (organic) to determine specific program requirements; one seminar presentation per year; thesis defense; thirty credits including 6-9 research credits (BMS 599), BMS 521 or 522, BMS 525, BMS 530 or BMS 535, BMS 551, BCH 581; two or three additional graduate courses or BMS 445 or 446 in consultation with major professor.

Ph.D. (Pharmaceutical Sciences) requirements same as M.S. plus the following:
One additional seminar credit; two additional graduate level BMS courses including BMS 633; research credits as required; seventy-two credits total; comprehensive examination, written and oral.

c. Pharmacology & Toxicology Changes in M.S. and Ph.D. (Pharmaceutical Sciences) admission and program requirements to read:

Pharmacology & Toxicology

Master's requirements: one seminar presentation per year; thesis defense; demonstrated proficiency in statistics either by coursework or examination; 30 credits including 6-9 research credits (BMS 599), BMS 521 or 522, BMS 525, BMS 530 or BMS 535, BCH 581; three or four courses from the following in consultation with major professor: BMS 454, 446, 455, 456, 544, 546, 572, 641, 642, 644; BCH 582.

Ph.D. (Pharmaceutical Sciences) requirements same as M.S. plus the following: Both BMS 535 and BMS 530 required; one additional seminar credit; research credits as required; two additional graduate level courses from BMS or BCH 582; seventy-two credits total; comprehensive examination, written and oral.

d. Add (New)

BMS 525 Experimental Techniques in Biomedical Sciences I,4
Provides experience with a variety of techniques used in Biomedical Science Research, including HPLC, NMR, polarimetry, biotransformations, solid phase synthesis, cell fractionation, and isolation and purification of proteins. (Lab 4) Staff

BMS 530 Drug Metabolism II,3
Mechanisms of Phase 1 (oxidation, reduction, hydrolysis) and Phase 2 (conjugations/synthesis) of drug metabolism. (Lec 3) Pre: BCH 581 or permission of instructor. Abushanab/Chichester/Panzica

BMS 535 Pharmaceutical Biotechnology II,3
Introduction to pharmaceutical biotechnology, including drug design, DNA sequencing, cloning, recombinant proteins, monoclonal antibodies, and drug screening techniques. (Lec 3) Pre: BCH 581 or permission of instructor. Staff

e. Changes

PCG 533: Medicinal Plants - code/credits/lec/lab to read:
BMS 533 Medicinal Plants I,3
Problems in drug plant chemotaxonomy with field work in the drug plant gardens. Emphasis is placed on certain alkaloid, glycoside and oil-yielding plants, weedicides and insecticides as related to measures for control. (Lec 2, Lab 3) Pre: PCG 446 or equivalent. Staff

MCH 643: Advanced Organic Medicinal Chemistry - code/number/title/desc/sem/pre to read:
BMS 691 Selected Topics in Medicinal Science I and II,3
Covers the following special research topics of interest: (a) Heterocyclic chemistry, (b) Nucleoside antibiotics, (c) Prodrugs and isosteres, (d) Nucleosides/Nucleotides: Synthesis and Biological function (e) Nucleic acid targeted drug design. (Lec 3) Pre: Permission of instructor. May be repeated for a maximum of 9 credits. Staff

2. Department of Applied Pharmaceutical Sciences
a. Changes in course requirements for the Ph.D. Regulatory Track to read:

Required courses: 24 research credits and STA 409, PHP 411, APS 693/694, IME 533, APS 621, APS 670, APS 660, APS 680, APS 540; STA 535 and either APS 622 or 631 (total credits 31-32); additional courses: sixteen or seventeen credits from APS 535, 622, 623, 631, 633, 640X, PED 564, MIC 533, MIC 552, MGT 630; MKT 601; CHM 512; PHP 540, APS 550, APS 651, APS 652, APS 693/694; 24 doctoral dissertation credits are required (48 course credits plus 24 doctoral dissertation credits for a total of 72 credits). (APS 693/694 are required; students may also take up to two additional credits of APS 693/694 for a maximum of 5 credits.) (Credit for APS 622 or 623 taken as a required course may not also be counted towards the additional course credit requirements).

B. College of Engineering
1. Department of Chemical Engineering
a. Change in program requirements for M.S.

Requirement of a six credit thesis **changed to 6-9 credits of CHE 599; (also change from "24 credits course work" to 21-24 credits course work.)**

b. Time extension to offer for a third time (Fall 1996)

CHE 503X: Applied Mathematics for Chemical Engineers

2. Department of Civil Engineering
a. Changes in thesis/dissertation program requirements to read:

Master of Science
Admission requirements: bachelor's degree in civil or environmental engineering. Candidates in other engineering fields or in mathematics, biology, chemistry, or physics may be accepted with the possibility of additional undergraduate prerequisite courses being required.
Program requirements: thesis or non-thesis option. Thirty credits plus CVE 601,602 except for part-time students. In the thesis option the thesis counts as 6 to 9 of the required credits. Non-thesis option requires comprehensive technical report and written comprehensive examination.

Doctor of Philosophy
Admission requirements: Master's degree in civil or environmental engineering or in a related field.
Program requirements: A minimum, of 42 credits plus CVE 601 and 602 beyond the M.S. degree. Students take between 18 and 24 dissertation credits, including the two-course minor outside the candidate's area of specialization, where required by the candidate's committee; comprehensive examination; and dissertation. Although there is no formal departmental language requirement, the candidate's committee may require proficiency with a research tool or in a foreign language.

b. Add (New)
CVE 586 Geotechnical Design of Water Containment Systems I or II,3
Engineering properties of soil-waste. Design of waste containment cover systems, use of geosynthetics, linear and drainage materials, slurry walls, landfills, leachate collection systems. Landfill design for earthquakes and stability. (Lec 3) Pre: CVE 381 and credit or concurrent enrollment in CVE 478. Kovacs

c. Change
CVE 584 Designing with Geosynthetics - prerequisite changed to: CVE 381 and/or concurrent enrollment in 483 or equivalent.

CVE 599: Masters Thesis Research -credit changed to 1-9

CVE 681: Advanced Geotechnical Engineering I-lec/desc to: (Lec 3); add word "engineering" so that desc reads -Advanced study of geotechnical engineering principles...

3. Department of Electrical Engineering
a. Changes in thesis/dissertation program requirements; clarification of seminar requirement; editorial changes in Bulletin entry to read:

Master of Science
Admission requirements: GRE and B.S. degree in electrical, computer, or biomedical engineering, physics, mathematics or computer science. Preparation in related fields such as mechanical engineering or in the life sciences may be acceptable.
Program requirements: Thesis or non-thesis option: minimum of 30 credits in science and engineering with a minimum of 16 credits in graduate level electrical engineering courses. Two credits of the departmental seminar (ELE 601 and/or 602) are required of all students. Individual programs are designed in accordance with the students' backgrounds and interests, but require departmental and Graduate School approval. In the thesis option the thesis counts as 6 to 9 credits. In the non-thesis option a written master's examination and one course involving significant independent work and a substantial paper are required.

Doctor of Philosophy

Admission requirements: GRE and M.S. degree or equivalent in electrical, computer, or biomedical engineering, physics, mathematics, computer science, or a related field. Exceptional candidates may be admitted directly from the B.S. degree.

Program requirements: A minimum of 72 credits beyond the B.S. degree. The M.S. degree may count as up to 30 of these credits; the remaining credits are split between coursework and dissertation research. Students with an M.S. in an appropriate field take between 18 and 24 dissertation credits; students without the M.S. may take between 18 and 30 (in either case additional dissertation credits may be taken for no program credit). A qualifying examination is required (but may be waived for outstanding students with an M.S.). A comprehensive examination is required after all formal course work is completed. Two credits of the departmental seminar (ELE 601 and/or 602) are required of all students.

b. Add (New)

ELE 589 Biomedical Engineering II II,4
Medical instrumentation: patient safety, isolation and noise-rejection techniques, pacemaker, cardiac assist devices. Physiological measurements: pressure, flow; biosensors. Biomedical signal processing: electrocardiography, electroencephalography. Medical instrumentation laboratories. Design project. Pre: ELE 588 or permission of instructor. May not be taken by students who have credit in 489. Staff

ELE 602 Graduate Seminar I or II, 1
Student seminars including the presentation of research results and detailed literature surveys. May be repeated for a total of 2 credits. Staff

c. Change

ELE 588: Biomedical Engineering I -cr/desc/pre changed to:
ELE 588 Biomedical Engineering I I,4
Medical imaging: x-rays, tomographic reconstruction techniques, angiography, radionuclide imaging, diagnostic ultrasound, magnetic resonance imaging, picture archiving and communication system. Modeling of physiological systems: nerve system, cardiopulmonary circulation. Design project. (Lec 3) Pre: Biomedical engineering senior standing or permission of instructor. May not be taken by students who have credit in 488. Staff

ELE 599: Masters Thesis Research - credit changed to 1-9.

ELE 601,602: Graduate Seminar -number/description changed to:
ELE 601 Graduate Seminar I or II,1
Seminar discussions presented by faculty and outside speakers on topics of current research interest. May be repeated for a total of 2 credits. May be taken concurrently with ELE 602. Staff

d. Crosslisting/Prerequisite

ELE 543: Computer Networks as CSC 519; Pre: ELE 437 or equivalent/CSC 412 or equivelent.

4. Department of Industrial and Manufacturing Engineering

a. Changes in M.S. thesis and program requirements including the addition of a non-thesis option to read:

Master of Science

Admission requirements: GRE (for graduates of non-U.S. Universities only) and B.S. degree in industrial, manufacturing or mechanical engineering. An applicant with a B.S. degree in another field of engineering, mathematics, physics, chemistry or computer science will be considered; such applicants will be required to complete some deficiency courses.

Program requirements: Thesis option - 30 credits including thesis (nine credits); IME 594 or special project in design for manufacture (IME 591 or 592); elective courses covering the areas of fundamentals of manufacturing process and manufacturing properties of materials, control and organization of manufacturing systems, and computer systems in manufacturing engineering and design. Non-thesis option for part time students with department permission - 30 credits of coursework including IME 549; elective courses covering the areas of fundamentals of manufacturing processes and manufacturing properties of materials, control and organization of manufacturing systems, and computer systems in manufacturing engineering and design; and a comprehensive examination. IME 240 or equivalent is a prerequisite.

b. Change

IME 599: Masters Thesis Research - credit changed to 1-9.

5. Department Mechanical Engineering and Applied Mechanics

a. Change the number of credits required for the non-thesis (part-time) M.S. program from 33 to 30 credits to read:

"....For non-thesis option for part-time students, permission of chairperson; 30 credits exclusive of seminar, including one course outside specialization..."

b. Add (New)

MCE 532 Precision Machine Design I or II,3
Fundamentals of design and integration of precision mechanical components and machines. Quasi-static and dynamic errors, sensors, contact and non-contact bearings, power generation devices and system integration. (Lec 3) Pre: MCE 401 or graduate standing. Jouaneh/Datseris

6. Department of Ocean Engineering

a. Change

OCE 599: Masters Thesis Research - credit changed to 1-9

OCE/CVE 582: Seabed Geotechnics - pre changed to:
CVE 381 or equivalent or OCE 411, or permission of instructor.

7. Department of Chemical Engineering

a. Change

CHE 599: Masters Thesis Research - credit/description changed to:
CHE 599 Masters Thesis Research
Number of credits is determined each semester in consultation with major professor. (Independent Study) S/U credit.
(Thesis credits changed to 1-9)

C. College of Arts and Sciences

1. Department of Zoology

a. Change

ZOO 586: Medical and Veterinary Entomology - description/ crosslist with ENT to read:
ZOO/ENT 586 Medical and Veterinary Entomology I,3
Life history, classification, habits and control of insects and other arthropods affecting human and animal health. Topics will include public health significance, vector-parasite interactions and survey and research methodologies. (Lec 1, Lab 4) Pre: ZOO 331 or ZOO 381 or equivalent. In alternate years. Hyland/Mather

2. Department of Computer Science

a. Crosslisting/Prerequisite

ELE 543: Computer Networks as CSC 519
Add to prerequisite to read: Pre: ELE 437 or equivalent/CSC 412 or equivalent